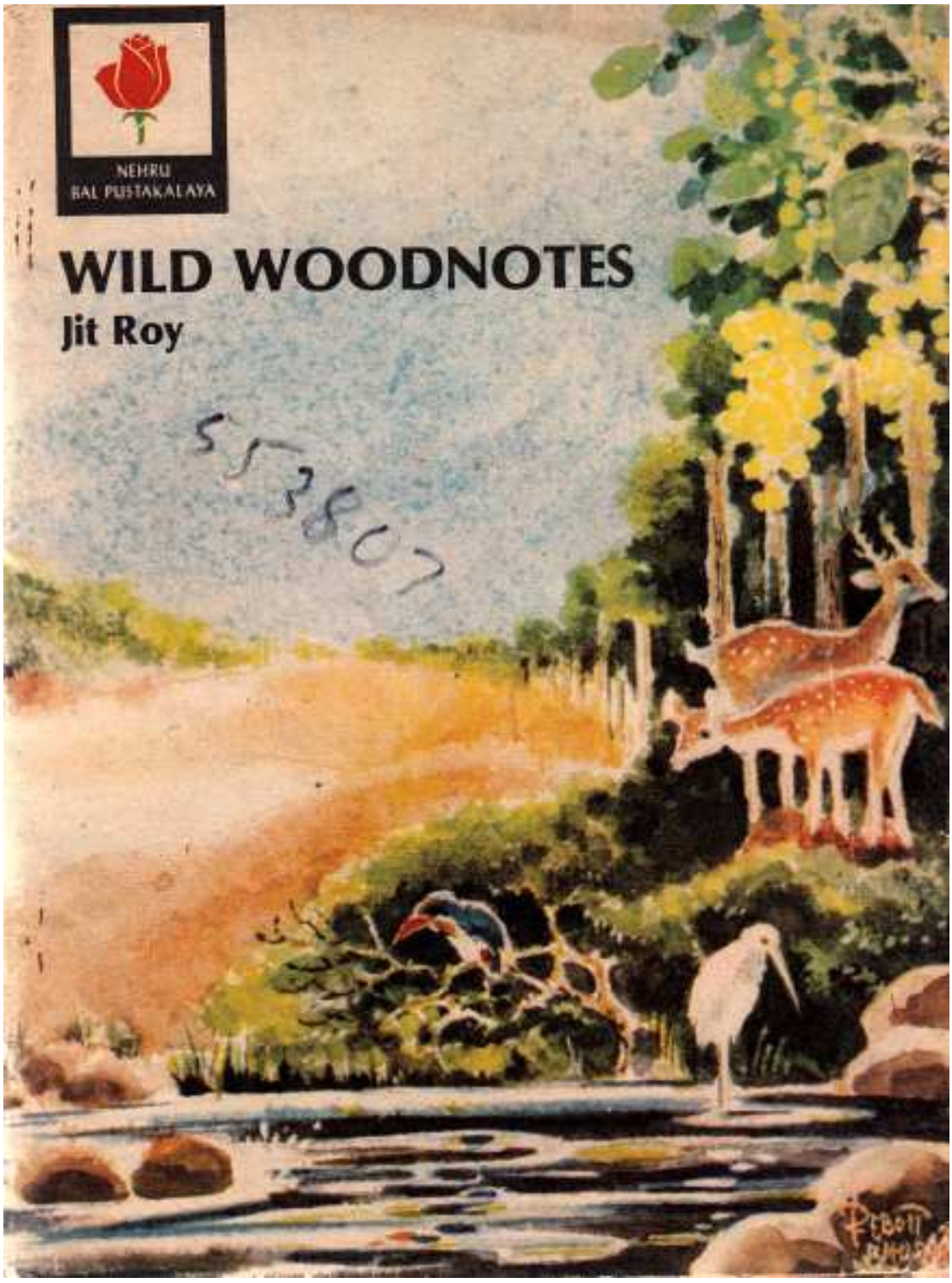

NEHRU
BAL PUSTAKALAYA
WILD WOODNOTES
Jit Roy



Nehru Bal Pustakalaya

WILD WOODNOTES

About Plants, Animals and Birds

Jit Roy

Illustrator
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NATIONAL BOOK TRUST, INDIA





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1

LURE OF THE WILDS

Why do we all love a picnic, or a holiday away from home? For the same reason that we love to be invited out to a meal. The change of diet, the little differences in the taste and flavour, make us relish the food all the more when we have an occasional meal at a friend's house or in a restaurant. In the same way, though there is no place like one's home, we all like to get away from it for a bit of change now and again.

Most readers of this book will be those who live in towns. They naturally like to escape for some time from the crowds, congestion, noise and diesel fumes. After the jostle of jay-walkers, the smell of car exhausts, the non-stop tooting of horns, there is something most refreshing about the peace and quiet, clean air, wide open spaces, and eye-soothing green of the countryside.

Moreover, being in the country gives one a wonderful chance to study nature. So many more plants, animals, birds and insects can be seen than is normal in and around one's home! We can feast our eyes on stately banyan trees, rustling bamboo clumps, wild lantana bushes laden with orange or mauve blossoms. In spring we see *palas* (Flame of the Forest) trees with their bright orange-red flowers, while in summer mango trees make the air sweet with the fragrance of their blossoms and fruit.

We see hares scuttling in the scrub, squirrels scurrying fussily from tree to tree, or playfully chasing one another. Monkeys chatter and frisk, and their young ones shriek





as they fight. Here and there a baby monkey hangs from its mother's body, its little arms wrapped tightly round her, its tiny hands gripping the fur on her back.

Doves waddle along, pecking at the ground. As we draw near, they take off with a clap of wings, settle on some nearby tree, and coo soothingly from the treetop. Bright butterflies flit around bushes of wild flowers. Little fish dart about in crystal-clear streams, casting moving shadows on the sands and stones at the bottom.

Dragonflies, with coloured bodies and transparent wings, hover among reeds and pampas grass at the edge of lakes. Cranes stand in shallow water, wagtails run along the sand, snippets peck the muddy shore with long rubber-like beaks. A flash of colour, and a kingfisher dives and plucks a fish idling too near the surface of the water.

Yes, there is so much to see, enjoy and admire in places that are still left more or less as nature made them; places unspoilt by man.

But I can tell you another very good reason why we love such places. It is because mankind began life in areas like these. Earliest man (your forefathers and mine) lived for thousands of years in caves, or on trees, in the wilds. So, even now, and without our quite knowing why, there still exists in us a love for the wilds. When we return to a wild spot, it is somewhat like returning after long years to an old home that we faintly remember.



II

WILDERNESS STILL LIVES IN US

The wilds have been called the 'cradle of mankind', and scientists believe that many of our inborn fears and pleasures are dimly remembered feelings of mankind's early life. For example, in ancient times, darkness was something to be really feared, because dangerous beasts came out to hunt when it got dark. This fear has lived on in us to this day, and we are still afraid of the dark.

When the family loves to sit round the hearth, they are (without realising it) again creating the warmth, and the feeling of safety from wild beasts, which the log fires gave to our wild ancestors. And why we love to grow plants in pots and flower-beds in our compounds, and keep animals and birds as pets is because plants, animals and birds remind us of our old primitive homes thousands of years ago.

The love which children have for swings and for tree-climbing is probably because our ancestors lived on trees long, long ago. The cradle in childhood, and the rocking-chair in second childhood, may also be reminders of our ancestral homes on trees.

Centuries before man learnt to make cotton or woollen clothes, the only way man could keep warm in cold weather was by wrapping himself in the skins of furry animals. So, even today, fashionable ladies love to drape themselves in leopard-skin coats and silver-fox furs!



Let me give you another example—this time, from the animal world. You must have seen how your dog goes round and round in a circle before he lies down to sleep. Of course the dog can't tell you why he acts as if he is trampling down grass and weeds to make a bed for himself. But scientists explain that, ages ago, the dog's ancestors which lived in the wilds had to do so to make a litter for sleeping in. That habit persists in dogs to this day.

So we see now that, though we no longer live in the wilds, the wilds still live on in us! It is as if some hidden battery in us gets recharged, and makes us feel fresh and happy by our occasional visits to natural spots.

By and by we shall see how wild places, like the forests, not only refresh us, but are very essential for keeping us healthy, and even alive.



III

NO PLANTS, NO LIFE

Our life on this planet is linked to all other forms of life around us. A large part of this life is plant life. In your Nature Study you must have learnt that plants are the real producers, and all creatures are mere consumers. In fact, plants are the only living things that create new matter —the primary (or original) food which all creatures need, directly or indirectly, to live on. The magician only *pretends* to make things out of the air, but plants *really* do so. How?

Under the sun's influence, the chemical chlorophyll (from two Greek words meaning 'green' and 'leaf') in plants takes in carbon dioxide gas (which creatures—including humans—breathe out) and water from the air, and turns them into food (glucose sugar). Some of this food is used by plants for their own growth. The rest is changed

into starch, and stored for future use in the leaves, roots, etc. just as we store extra food in cupboards. This stored food is what men and animals 'rob' from plants to feed themselves on.

So a world without plants would be a dead world, because all creatures that feed on plants would be the first to starve to death. As a result, those creatures which feed on the plant-eaters would then die out. Let us take an example. Certain animals like wild cats, civets and mongooses feed on birds. Birds feed on caterpillars and insects. Caterpillars and insects feed on plants. You see then how animals, birds, insects and plants form a chain of life. This chain would snap if any of its links broke down.

Not only that, but a world without plants would very soon have no pure air for creatures to breathe. For plants give out the life-giving gas oxygen, and at the same time soak up the deadly carbon dioxide, which is breathed out by all other living creatures.



Unfortunately, civilised man is going on adding more and more carbon dioxide (along with other harmful gases) to the air through car exhausts, factory chimneys, etc. As the human population and the number of cars and factories keep growing, the air also gets more and more polluted. That is why we hear about 'pollution' so often these days.



IV

MAN CREATES DESERTS

Today it is difficult to believe that the Sahara was once rich pasture land, dotted here and there with forests. Most of North Africa is a desert today. But, in the fifth century B.C., the famous Greek historian Herodotus wrote glowing accounts about North Africa's vast forests, teeming with wild animals. He described parts of the land being so fertile as to be 'equal to any country in the world for cereal crops'.

Even at the time of the Romans, North Africa abounded in rivers and lakes, and had a soil so fertile that the Roman historian Pliny called it 'the granary of the world'. The Romans looked on Egypt as their 'bread basket'. North Africa was so forested that it supplied most of the wild animals for the Roman games. Emperor Augustus is reported to have imported 3,500 animals from North

Africa for just three games!

An old proverb says, 'Forests precede civilisations, deserts follow them'. Many great empires of the past (such as the Egyptian, Babylonian, Persian, Greek) were situated in lands that were fertile, and had plenty of rivers, lakes and forests. Today they lie within desert belts or semi-arid areas, with their forests gone, and their soil so poor that it can hardly support life. Why?

Deforestation (which means cutting down forests) is what turns rich and fertile lands into dry, barren tracts. Even in very early times, wise and far-sighted men were worried about the thoughtless despoiling of nature. Socrates warned the Greeks against cutting down the forests for timber, and grazing too many animals on the Greek mountains. At the end of the eighteenth century America was warned that deforestation in New England was drying up streams, causing drought and affecting climate. But all such warnings were ignored by selfish, thoughtless men, and these lands inevitably became barren wastes.

While this book was being written, photographs taken by satellites showed that, *in 1976 alone*, one lakh square kilometres of the vast Amazon jungle in South America had been cut down, chiefly for setting up industries and cattle farms. Unless this reckless deforestation is halted soon, scientists fear that within thirtyfive years this fifty-lakh square kilometres of virgin forest could become an arid wilderness. The Amazon jungle is the richest plant area on earth, and crucial to the oxygen supply of the world. Moreover, of the 14,712 varieties of wildlife

reported to live there, over 8,000 are said to be unique.

To take another example, there is abundant undammed water, from several mountain-river systems, in the little known Purari River Basin in Papua (New Guinea). It is now planned to provide hydro-electric power from these to large areas nearby. Unfortunately, the project also aims at tapping vast timber resources from the virgin rain-forests in the luxuriant lowland areas, and flooding certain other areas for industrial development. As a result, there will be much deforestation, and the natural home of some unique wild creatures will be lost. With the loss of their home, these creatures will die out.

We in India have been making the same mistake. But we can still hope to save what is left of our age-old forests, where our ancient kings hunted lion, deer and other wild game with bow, arrow and spear from horseback.

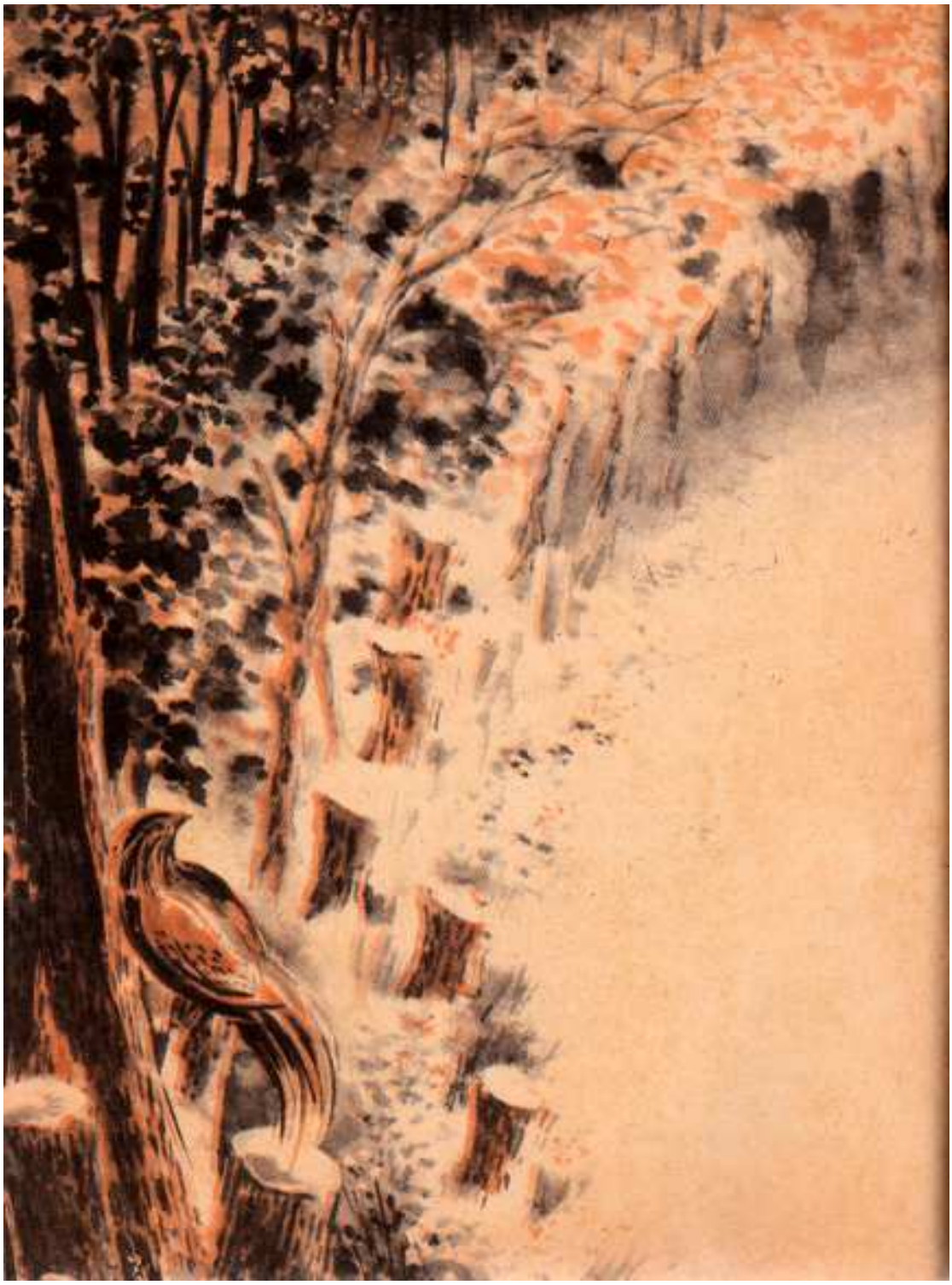
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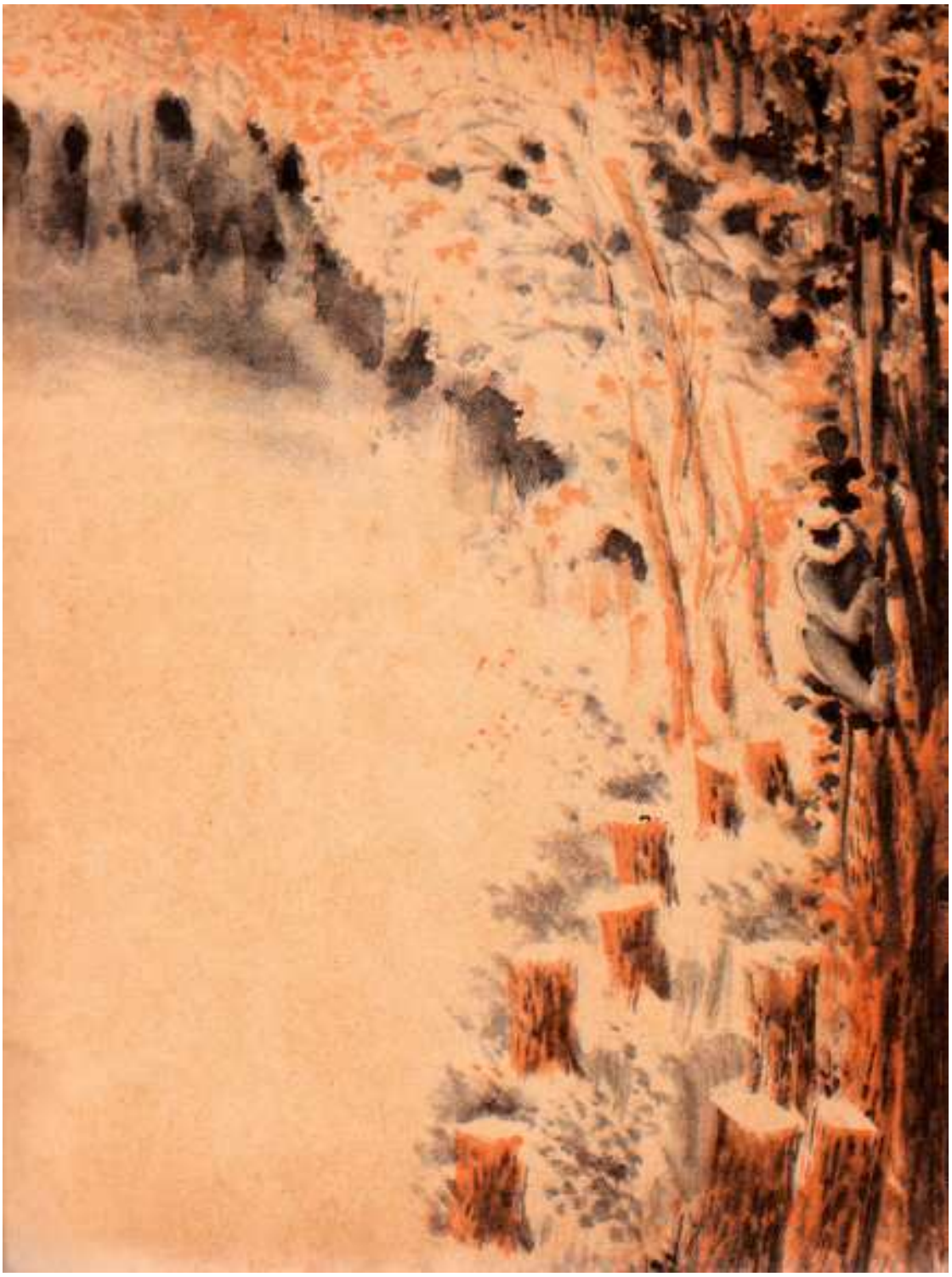
DANGERS OF DEFORESTATION

How does the cutting down of forests affect fertility? It does so by washing away the soil, drying up rivers and lakes, and causing floods.

The roots of trees and shrubs cling to the soil, and prevent it from being washed away. Then, roots and fallen leaves, and other vegetable substances soak up rain water and preserve it. Slowly, much of this water finds its way down into the earth (instead of causing floods and rushing away, which it would do without the vegetable substances to act as brakes), and is stored in underground wells. This water feeds streams and lakes.

Ninetyfive per cent of all life found in the forests exists either above, or within a depth of 15 cms. from, the forest floor. Much of it consists of bacteria, and can be seen only with a microscope. But, though so tiny, bacteria are





extremely useful for keeping the soil healthy and fertile.

Bacteria, earthworms, insects, fungi and many other kinds of life below the surface, act together as a sort of factory for creating a fertile top-soil, thus making the earth habitable for all living things. In this task, plants, microbes, insects and animals all play an active part.

We see then that plants produce the primary food without which no creature (plant-eater or flesh-eater) could live. They give out oxygen, without which no creature could breathe. Without plants this earth would become an airless, waterless, lifeless world—like the moon. That is why forests (with thousands of plants) are invaluable to all living creatures.

Forests are therefore very necessary for keeping us healthy, and even alive.

VI

THE WORLD'S LARGEST AND OLDEST LIVING THINGS

If someone asked you what was the largest living thing in the world today, you would probably reply that it was the elephant, or the whale. But you would be wrong! The largest living thing today belongs to the plant kingdom. It is a species of the giant Sequoia tree, which grows in California (U.S.A.). There is a collection of over ninety of these trees, called the 'Mammoth Grove of Alvares'.

Some of these trees are nearly 100 metres high, but the tallest of the species (discovered as late as 1963) stands in the misty valley of the north Californian coast. It rises to a height of 112 metres!

A century ago, an Australian eucalyptus was reported to have measured 132 metres *to the point where its tip had broken off*. But that tree is dead now, so the 112-metre California giant is the tallest living tree today.

Let us consider the girth of some of these big trees. Some

in the Mammoth Grove have a circumference of over 20 metres round the base of their trunks. But a Montezuma cypress in Mexico is 35 metres around its base. Some of our Indian banyan trees may cover more than 4,000 sq. metres of ground, but they really consist of hundreds of rooted vines. So they are not really single trees, but a whole family.

The oldest thing alive today is also a tree, and that too exists in California. In the White Mountains of California there are bristlecone pines that have lived more than 4,000 years. One of these, named Methuselah because of its antiquity, is over 4,600 years old—a fantastic age that goes back beyond recorded history!

Here let me mention some of the most historic events that occurred during the lifetime of this tree. Methuselah had lived for over 1,870 years when Rome was founded in 753 B.C.

Buddha, born in 560 B.C., was more than 2,000 years younger than this tree, which approached the age of 2,300 when Alexander the Great crossed the Indus into India, and it had reached the age of 2,400 when the Great Wall of China was built in 221 B.C. When Jesus Christ was born (the true year was 4 B.C.) Methuselah was over 2,600 years.

When the Prophet Mohamed was born (A.D. 569) Methuselah was nearing 3,200 years, and when the Taj Mahal was built this fantastic tree had lived for over four and a quarter millennia!

How are scientists sure that these trees are so many

thousands of years old? Most trees add a growth-ring of new wood every year, forming patterns like finger-prints. By counting the number of rings on a cross-section of a tree, its age can be judged accurately. Scientists who measure time by counting the growth-rings on trees are known as dendrochronologists. By cross-dating the inner growth-rings of old living trees with the rings in the stumps of still older dead trees, dendrochronologists have come across specimens that date as far back as 8,200 years!

A much more recent scientific discovery is the 'Carbon 14 dating method'. This is how it works. All living things contain a certain amount of the radioactive element Carbon 14. When a living thing dies, this Carbon 14 begins to decay at a rate known to science. The rest is simple: you measure the quantity of Carbon 14 still left in the dead specimen, and you can tell how long ago the specimen died.

Until recently, scientists could only guarantee that the concentration of Carbon 14 was constant during the last four decades, but they were not sure about earlier periods. This is where the bristlecone pines came into the picture. Now, instead of only four decades, scientists could check back up to 8,200 years.

A bristlecone pine still older than Methuselah, growing in Nevada (U.S.A.), was regrettably cut down in 1964. Dendrochronologists have fixed its age at 4,900 years! Is it not a tragedy that such a magnificent monument of nature should be cut down (perhaps within a few days) by a creature like man, who very rarely lives up to 100 years?

VII

MISBELIEFS ABOUT WILD CREATURES

When we talk of wild places,we naturally think of the wild creatures which live there. Unfortunately, many of our beliefs about them are totally wrong.

For instance, bears do not hug their victims, as is generally believed. When bears attack, they use their teeth and claws, like so many other creatures.

Ostriches never bury their heads in the sand. Since they have very tall necks, they *lower their heads* to remain unseen, and peep stealthily through low gaps in the scrub, to see if any enemies are around.

Wolves seldom hunt in packs. Only in the barren tundras (ice-bound regions in the Frigid Zones), where game is very scarce, several pairs (or even several small families) of wolves might follow the trail of the same prey, and so happen to form a large pack.

There is a common misbelief that porcupines use their quills like arrows, 'shooting' them at enemies. Actually they do not, and *cannot* do that. What they do is to erect their quills and run backwards, to dig the quills deep into their enemies. If you have read Jim Corbett's books, you must know that even tigers are sometimes maimed by porcupine quills stuck deep into their bodies. As a result, tigers are often forced to become man-eaters. For man is so much easier to hunt than wild animals.

Something that makes us very angry is called in English 'a red rag to a bull'.. But bulls cannot see red or any colour, as they are colour-blind! To most animals the world is black and white, with grey shades in between.



But that fact should not make us feel superior to animals, for even some Greeks of immortal fame seem to have been colour-blind! Homer called the sea, 'wine coloured', and Xenophon described the rainbow as having only three colours—purple, yellow and red. Even Aristotle spoke of 'the tri-coloured rainbow'.

But we must get back to the subject of misbeliefs about wild creatures.

Probably the wildest of all such misbeliefs is that pythons carry away and eat human beings. In fact, just the opposite is true! Quite a few jungle tribes eat python meat with great relish.

Long ago, I went on a *shikar* trip on which a python was killed. Inside its stomach was found a small deer, recently swallowed. The jungle villagers accompanying us cooked and ate the meat of both the python and the deer! In India not a single case is yet known of a python attacking a human being, let alone killing or eating one.

In parts of Madhya Pradesh, jungle folk call the python *keera* (a worm), which shows how harmless they consider it. On the other hand, in parts of Assam the wild elephant is respectfully called 'Maharaj'!

VIII

SNAKES ARE NOT HOSTILE TO US

Romulus Whittaker, Director of the Madras Snake Park, knows more about snakes than most people. This is what he writes: "They (snakes) are defensive and frightened of man, the much larger animal. Snakes do not chase people any more than you would think of chasing a wild elephant."

Like all wild creatures, snakes want to keep away from man as much as possible. Even the most poisonous snake normally glides away if we go towards it. If we happen to get dangerously close, it usually hisses to warn us off.

Snakes are totally deaf, and most snake-bites are due to people stepping on a snake accidentally, either in the dark, or when they are lying in the grass, or under dead leaves. (A 'snake in the grass' does *not* lie in ambush—it lies in hiding!) Snakes bite man only when they think they are being cornered or attacked. Quite often, they do not bite

even then! Let me give you a few examples to prove this.

Assam had no electricity when I was seven years old, and my sister five. One evening we were changing into our night clothes by the light of a hurricane lantern. My sister saw something curled up on the floor. Thinking it was a ribbon, she picked it up, and it glided harmlessly through her fingers. Actually it was a *krait*, a deadly poisonous snake.

A year later, I was playing in our compound with a ball along with a few other children. During the game the ball entered a hole on the side of an embankment. I put my hand into the hole and got the ball out. Then, out of childish curiosity, I peeped into the hole. About 20 cms. back I saw a cobra's mouth open, its forked tongue moving from side to side! The hole was the cobra's home. First the ball, and then my hand had not only entered its home, but gone as close as 5 cms. from its fangs. Yet the cobra did not bite me. (But our pet cat bit me once, when I accidentally trod on its tail!)

My brother, who lives in Madhya Pradesh, took his wife out for a walk after dark one evening. My sister-in-law felt something sticking to her sari near her ankle. Thinking it was a small branch lying on the ground, she kicked it away. To her horror, it glided away, hissing! It was a cobra.

An aunt of mine, living in Orissa, woke up thirsty one hot night. She knew where the pitcher of water was kept, and did not want to disturb others by switching on a torch. She went to the pitcher, held its narrow neck, and

tilted it to pour water into a glass. Her hand touched something coiled round the pitcher. She screamed and jumped away. Somebody woke up and flashed a torch. A cobra had coiled itself round the vessel to keep itself cool!

Once a python was sleeping peacefully among some dead leaves in my grandfather's garden in Orissa. The *mali* mistook it for a log of wood, and stood on it to pluck some fruit from a low branch of a tree. All the python did



was to wriggle in discomfort! Only then did the *mali* realise his mistake, and quickly jump away.

Most people believe that, in a case such as this, a python would at once coil itself round a man, and crush him to death. But actually the python has never harmed man. In his book *Jungle Lore*, the great Jim Corbett writes, "I have never heard of a python killing a man." I myself have roamed through many Indian jungles for over 55 years, and nowhere have I found jungle tribes scared of the python.

Let me cite one more example to show how harmless snakes are, so long as they are left alone. There was a *phoungi-chong* (Buddhist monastery) in Upper Burma, with plenty of snakes in the grounds. The monks and snakes left each other in peace, and all went well. During World War II the Allies withdrew from that area, and the Japanese forces moved in. The monks and snakes continued living peacefully together. Years later, the Chindits attacked one dark night,and drove the Japanese away after some bitter fighting around and inside the monastery. Later, when the list of casualties was drawn up, it was found that only 62 Chindits had been killed by enemy action, but over 160 by snake-bite!

IX

MAN IS FAR DEADLIER THAN 'DANGEROUS' ANIMALS

The longest war fought on this earth has been man's war against wild creatures. It is sad that this war is still being waged.

In the earliest days, man fought against wild creatures mainly for survival. Later, when he learnt to grow crops and keep livestock, it was still largely a war of defence—to protect his crops and animals. True, he also killed wild creatures for food, but he still had only crude weapons, so the killings were not on a large scale. Then, as man invented more and more deadly weapons, the destruction occurred on an ever increasing scale.

All along, man has killed not only those wild creatures which he considers dangerous, but he has also slain mercilessly others which were harmless, for the sake of their meat, fat, skin, fur and feather. He has relentlessly

destroyed forests, drained off lakes and marshes, dammed up rivers or altered their courses. In doing so, he has robbed thousands of creatures of their life, their home and their food and water supply.

Without any doubt, man is the most cruel and deadly creature on earth. Look at the number of game species he has almost wiped out *in India alone*—the rhino, lion, black buck, swamp deer, crocodile, to name only a few. Unchecked killing, reckless deforestation, and draining of rivers and marshes, have so reduced the number of these species that they have now been declared protected.

Man calls creatures like the snake, lion, tiger and jaguar 'dangerous'. If they really were so, then the thousands of small forest villages lying in the interior of India, Burma, Sri Lanka, Malaya, Africa, South America, etc. would have been wiped out ages ago. But what has actually happened is that the wildlife population has gone down steadily in most of these places, while the human population has increased many times over!

The human population reached 1,000 million in 1830, after several centuries. It reached another 1,000 million after exactly 100 years, in 1930. The third 1,000 million was reached in 1960, in 30 years. But it took just 15 years to reach the next 1,000 million in 1975!

X

FEAR OF SNAKES, A 'LEFT OVER' FROM FORGOTTEN DAYS

It is now easy to see why all wild creatures are afraid of man. He has always been their Public Enemy Number One. It is far more difficult to understand why *man* should be afraid of *them*.

The monkey (which still lives on trees) has, of course, every reason to fear the snake. Big snakes like the python are fond of eating monkeys, so monkeys are often paralysed with fear when they see a snake.

In the Bronx Zoo in New York a chimpanzee called Bushman once escaped from his cage. When all attempts failed to coax or drive Bushman back into his cage, the keeper picked up a snake from the reptile house and walked towards Bushman, dangling the snake in front. As soon as Bushman saw the snake approaching him, he ran back in fright to the safety of his cage!



The monkey's dread of snakes is quite understandable. But why should man be so terribly scared of these reptiles which are *not* hostile to him, and are only anxious to get out of his way? In Chapter II we learnt that many of man's inborn fears and pleasures were 'left overs' from his old life in the wilds. In what may be called man's 'ape stage' (i.e. when man lived on trees), his most dreaded enemies were the big snakes, which also lived mostly on trees. That prehistoric dread has survived in us to this day, although we no longer have to fight snakes for living space.

XI

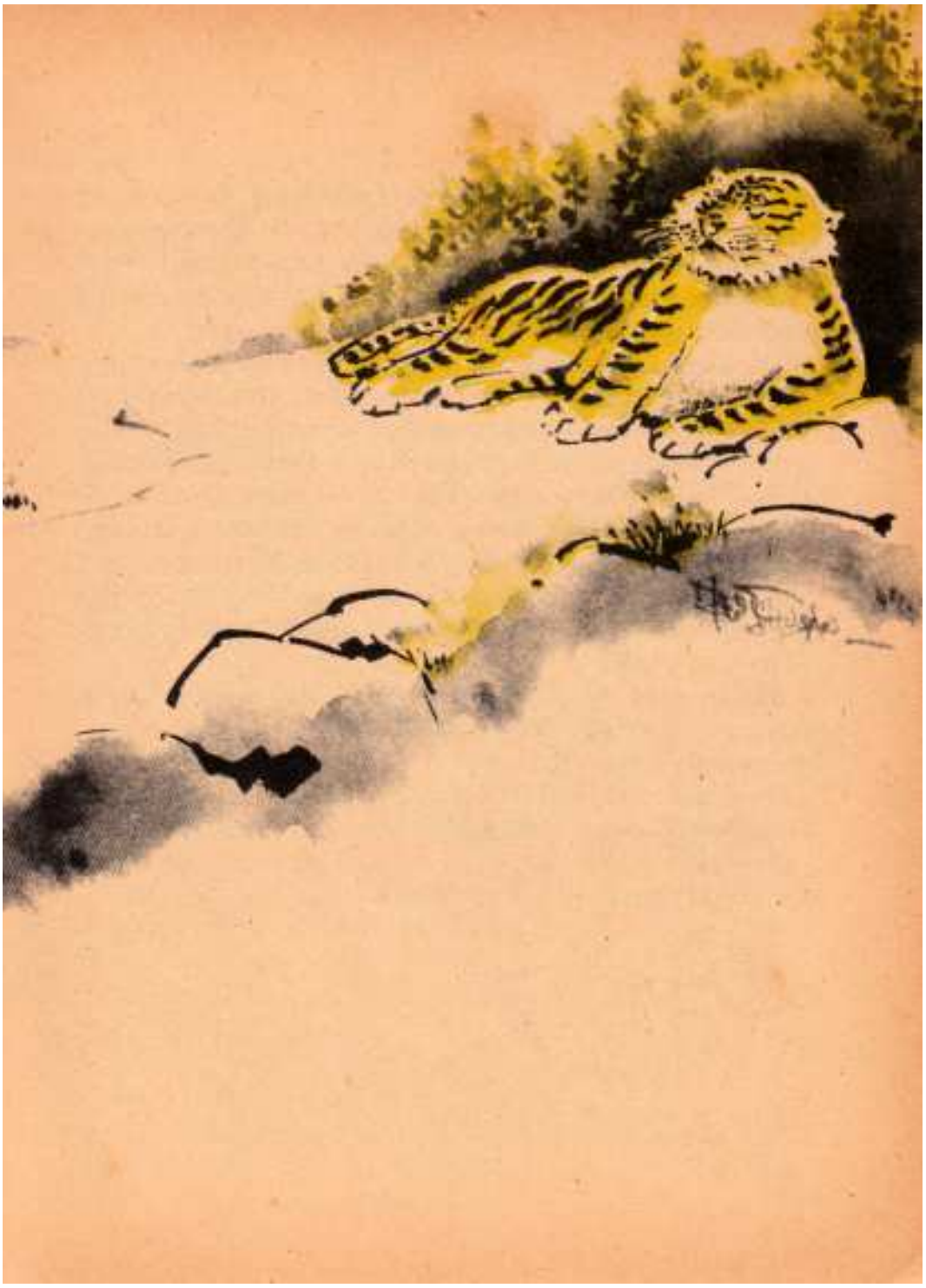
TIGERS ARE NOT HOSTILE TO MAN

Our fear of many other wild creatures is as groundless as our fear of snakes. Take the case of tigers. Most people believe that the tiger is a ferocious, blood-thirsty animal that will kill man or beast at every opportunity. Nothing could be further from the truth!

When I was fourteen, I was returning to Gauhati on my cycle one evening. At the foot of Kamakshya Hill (about 5 kilometres from Gauhati) a huge tiger was lying peacefully in a small glade, about ten paces away from the road. I saw the tiger only when I drew alongside it, and I pedalled away as fast as I could! The tiger just looked at me in a good-natured way as I cycled past it. If it could speak, I am sure that tiger would have said to me, "Go in peace, my boy"!

On a long car journey, my friend Hugh Dias was passing through the Palamau forests of Bihar. About midnight,





feeling rather cramped after hours of driving, he wanted to stretch his legs a bit. So he stopped the car, lit a cigarette, and strolled towards a deserted *naka* (check post) shed. Although there was a finger-nail of a moon in the sky, the verandah was in darkness, due to the roof over it.

As Dias approached the shed, he heard a low warning growl. There was a tiger on the verandah. Dias remembered (what we should all remember) that to scream, or run away, when faced with a tiger, bull, or ever an unfriendly dog, almost always makes the animal chase you. So, he just stood still where he was. A few seconds later, a faint, shuffling told him that the tiger was walking down the steps on another side of the verandah. Presently, by the faint light of the moon and stars, he saw the tiger walk into the jungle nearby.

These two incidents prove how man has unjustly maligned the tiger. Now just suppose for a moment that the positions had been reversed. How many men, if armed with a gun and safely in cover, would have spared an unsuspecting tiger that came within shooting distance?

So which creature would you say was really ferocious and blood-thirsty—tiger or man?

XII

TIGERS KILL ONLY TO KEEP ALIVE

Every day thousands of men go about felling trees, collecting honey and grubs, snaring birds and small animals, building roads and railways, in hundreds of forests where there are tigers. Women enter forests to collect faggots, pick *mahua* blossoms and wild fruits, and cut grass and leaves for fodder. Children take herds of cattle and goats to graze in forests. These men, women and children sometimes see tigers. Tigers almost always see them, but move away quietly or keep in hiding when human beings come near.

Now and again a hungry tiger kills a bull, cow or goat from a herd—but *not* if his natural prey (wild pig, deer, etc.) is available (in other words, so long as man has not made his natural prey scarce by reckless killing or ruthless deforestation).

You might ask, "What about man-eating tigers?" The answer is they are very, very rare. There are far more criminals among men, than there are man-eaters among tigers. A tiger takes to man-eating only when he has

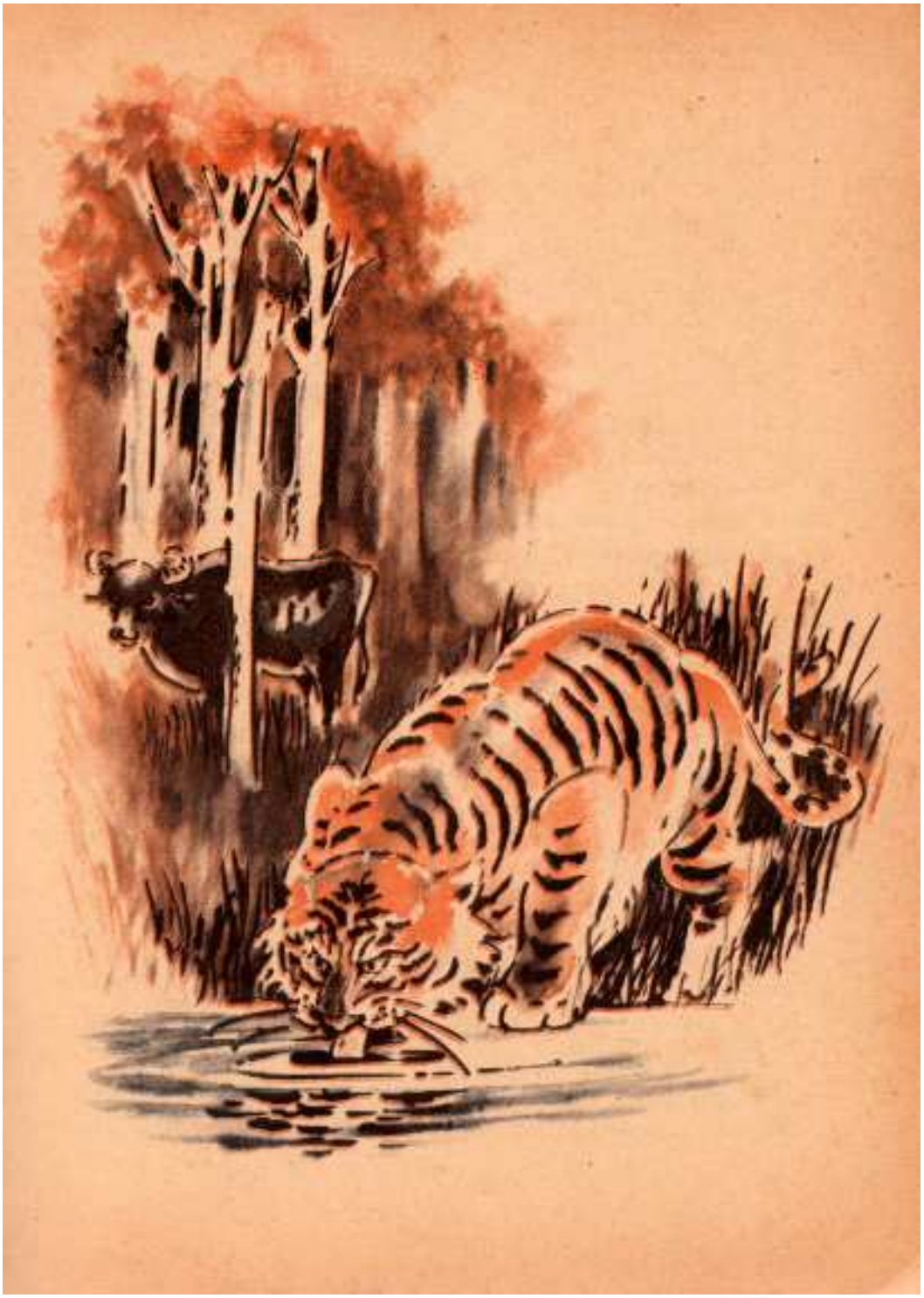
become too weak or slow to kill his natural prey. Very often man himself turns a tiger into a man-eater, by wounding or crippling it with crude weapons or poor shooting. Such disabled tigers are often killed by fellow-tigers, wild buffaloes, or other wild animals. But the ones that survive learn from experience that man is (very literally!) 'easy meat' and take to man-eating as a last resort.

The tiger (even the man-eater) is no more cruel than any other flesh-eating creature. He is certainly far less ruthless than man. Omnivorous creatures, like man, can live without eating flesh. But the tiger *must* kill in order to eat and, of course, he must eat in order to live!

Except on very rare occasions, the tiger does not kill unless he is hungry. Probably some natural instinct tells him that, if he kills wantonly, his food supply will be used up before long. This was proved by an experience of a *shikari* friend of mine, Laloo Durve.

Laloo was on a tiger shoot in Madhya Pradesh one summer, when most of the jungle streams and lakes had dried up. He tied up a buffalo as bait, placed some hay and a trough of water by its side, and sat up on a tree nearby. At dusk a tiger came, walked up to the water, and drank thirstily. Then it walked back into the jungle without touching the buffalo! The tiger was not hungry, only thirsty. So it spared the buffalo, but drank the water. Laloo could have easily shot that tiger, but he was so touched by its behaviour that he let it go.

Now would you still call the tiger a ferocious and blood-thirsty creature?



XIII

THE UNSPOILT MAN OF THE JUNGLE

Flora and fauna are not the only living things in wild areas. Human beings have also lived there since earliest times. In countries like India, lakhs of men, women and children still inhabit the wilds. These jungle folk belong there just as the animals, birds, reptiles and insects do. They are as much a part of the land as the hills, forests and streams.

The jungle-dweller, who lives in the lap of nature, is in many ways a better person than the 'civilised' man who often looks down on him as a *jungli* (savage). Anyone who has lived among the unspoilt jungle folk will tell you that, by nature, the jungle-dweller is honest, helpful, generous, and certainly much more self-reliant than the townsman.

Having spent all his life in a small group, he is close to his neighbours, and looks upon them as his own kith and

kin. With outsiders, too, if he once takes to anyone, he will do all that he would do for his own folk. What is more, he will do so from love, with no thought of anything in return.

On one of my trips to the heart of the jungle, I found one villager particularly helpful and friendly. When the time came for me to leave the place, I made the blunder of offering him some money for his troubles. The unworldly simple fellow was so pained and angry! He said, "I gave you my love, and all I wanted in return was your love. When we went out together, we shared the hardship and the fun. And we shared the food and water we carried with us. That is as it should be. I shall be *be-iman* (without honour) if I take money from you."

On a visit to the tribal area of Bastar in Madhya Pradesh some fifteen years ago, I saw on a roadside a house of the then ruler of Bastar. The house was unlocked, and without a watchman. There was furniture in the rooms, wash-basins and mugs in the bathroom. There were fruit trees and flowering plants in bloom in the compound. The house had been left like that for years. None of the simple folk around ever thought of touching anything!

As a rule, a stranger arriving in a city has to pay for his lodging. Yet, in the heart of Bastar (one of the most primitive districts in India) every sizeable village has a house known as a *thanaguri*. (This word means 'guest house', and has nothing to do with a *thana* or police station). It is usually a large hut which is put at the disposal of any visitor who approaches the village

headman for accommodation.

The *thanaguri* is provided with a pitcher of water, some firewood, a broom, and a few rush mats to sit or lie on. Village girls take it in turns to keep it swept and cleaned for any visitor who may arrive without notice. An elderly villager is usually responsible for fetching water from the well or stream. If India's traditional hospitality survives



anywhere today, it does so in this primitive heart of the country!

The city dweller feels quite helpless when he has to 'make do' with what the jungle provides. But the jungle man has no difficulty in lighting a fire without matches, producing a blaze inspite of rain or wind. He can make rope, string or torches from parts of plants. He can rig up a shelter in no time and erect a hut without bricks, cement, nails, or other building material. He can trap birds and small animals with the most primitive snares, and catch fish with the simplest rods and wicker baskets. He adds proteins and vitamins to his diet by eating locusts, grubs, and several kinds of edible wild nuts, stems, leaves and berries that you and I do not even know about.

Once, when out on a day's *shikar*, I sprained my foot and stayed till evening in a valley, while my companions went on. Eight or ten young boys were grazing cattle all round me, and it was an education for me to watch their activities through the day.

They and their dogs kept a careful watch on the cattle, and drove back any that tried to stray out of sight. At the same time, they picked fruits, berries and edible leaves to take home. A couple of them collected wild nuts, and shelled them between two flat stones. A few of them caught small fish in a stream, with a shirt which one of them had taken off. One or two gathered fat grubs. The two eldest boys polted away at doves and kingfishers with their catapults, and one little fellow proudly showed me a comb of honey he had broken off from a tree.



By late afternoon, when it was time to round up the cattle and drive them home, these youngsters had managed to collect, from that small patch of jungle, various kinds of food for their families. After spending a full day at the same spot, a townsman would not only have returned home empty-handed, but left behind a fair amount of litter!

If a nuclear war or some terrible natural calamity ever destroyed the amenities of civilisation, and we had to go back to living with nature, the jungle folk would fare much better than you or I in that grim struggle for survival.

XIV

THE GIANT GRASS—BAMBOO

The bamboo is the tallest member of the grass family. Some varieties may reach a height of 35 metres, and have stems 35 centimetres in diameter. There is one clinging type that grows to more than 60 metres.

Many of us think that the bamboo is a purely Asiatic plant, but actually it also grows in the western hemisphere. It is found from southern U.S.A. to northern Chile and Argentina. Cattle graze on it in the coastal range of north California. This towering grass is, however, most abundant in Asia. China alone is said to grow 160 varieties!

The bamboo is truly a multi-purpose plant, and its uses are almost unlimited. Did you know that liquid diesel fuel may be distilled from bamboo? Medicines for hormones and drugs are also made from substances in the bamboo. The medium used for the culture of germs taken from a patient is sometimes prepared from the bamboo. These

are some uncommon uses of the bamboo. Its common uses are many.

It has been truly said that the lives of people in the Far East would be completely changed if the bamboo disappeared. Bamboo sprouts are eaten in almost every Asiatic country where the bamboo grows. In eastern India and many other countries, bamboo huts (called 'bashas' in Assam and Bengal) are quite common in rural areas. Bamboo furniture and knick-knacks made of bamboo are used all over the world. Bamboo containers are used in China, Assam and other places for cooking food.

In bamboo-growing areas fishermen use bamboo fishing rods, then put the fish they catch into bamboo baskets. In many hill areas bamboo pipes bring down water from hill springs to villages in the valleys. Needless to say, bamboo is also widely used as fuel, for making sticks, fencing, and many such purposes. Then, as you all know, food is eaten with bamboo chopsticks in China.

Boatmen who tow junks through the rapids of the mighty Yangtze-Kiang river use bamboo ropes. These ropes stand a stress of over 1,785 kg. per square cm.—almost equal to the capacity of steel ropes! Bamboo also makes excellent reinforcement for concrete.

Bamboo pulp has, of course, been used in paper-making for centuries. Then, bamboo pipes make excellent musical instruments, and not only simple ones like flutes. In Tokyo there is an organ with bamboo pipes. In Las Pinas Rizal (a suburb of Manila) there is a 150-year old organ with bamboo pipes.



The bamboo is the fastest growing of all existing plants. Some species in South East Asia are reported to gain nearly one and a quarter metres in one day! Many varieties complete their upward growth within a couple of months. But, after this fantastic spurt, it stops growing upwards for almost the rest of its life.

The next part of its growth is underground. In each hectare, anything from 100 to 750 new clumps or runners will now go on spreading and growing. When spring comes, this sideways sprawl stops for the time being. Now the new sprouts nose their way up through the earth, and all the energy of the growing bamboo goes towards pushing the new stems in another fantastic upward thrust. Bamboo clumps extend and spread in this way. That is why *zamindars* in the olden days often planted bamboo on the borders of their lands. Afterwards, they claimed as their territory all the land upto where the bamboo clumps had spread!

The bamboo has a life-span of 100 years or more. But it is strange that each year's sprouts live a year less than the previous year's ones. Therefore, all the bamboo plants in any area die at about the same time, although some of them might be 100 years old and some only one.

After the bamboo culms bloom (which they do about 100 years after the birth of the first plants), the whole bamboo forest dies within a year or two. Even the plants removed from one country, and transplanted in another, bloom and die at the same time as the mother forest from which they were taken away!

XV

THE CHIRPY, HAPPY HOUSE SPARROW

As the human population grew, and man started invading wild areas more and more, wild creatures reacted in two ways. Most of them retreated further and further into the wilds, to avoid their age-old enemy. These creatures are called 'technophobic'. But a few learnt to adapt themselves to living near man, and making use of him in many ways. These are known as 'technophilic'. Some examples are jackals, rabbits and foxes in rural places; crows, pigeons, and rats in urban areas. The best example of all is, however, the house sparrow.

Of all the untamed creatures, sparrows seem to love living near man the most. Wherever a new township springs up, and human beings begin to settle down, sparrows follow in no time. They even build their nests inside homes and, if they feel sure they will not be harmed,

they will even come and eat out of your hand. That is why they have been called the most human of all birds.

With the possible exception of the domestic fowl, the sparrow is the most widespread land bird. But while the fowl has been tamed and carried to the four corners of the earth by man, the sparrow has gone and settled in extensive areas largely by its own efforts. All by themselves, sparrows spread from the tropical to many other parts of Africa, all over Europe, and reached across South East Asia, right up to the Far East. But man helped them to reach the New World and the Antipodes.

In the mid-1850's, some European emigrants took sparrows to North America, as reminders of their old European homes. Then sparrows were imported by American farmers, to keep down the population of insect pests. In the late 1860's, Australia and New Zealand also imported sparrows for the same purpose. They were introduced to South America in 1872, when just twenty pairs were released in Buenos Aires. These multiplied very fast, and spread all over southern and central South America.

Most birds and animals find a new mate every season. But sparrows (like pigeons and wolves) pair for life. When one of them dies, the other mourns for it in an almost human manner.

Sparrows breed very fast. The female lays eggs four times a year, with an average of five eggs each time. If all these hatched out and the chicks managed to survive, sparrows would multiply so fast, and so many times over,



that they would ruin the balance of nature, and become a terrible pest. A little exercise in arithmetic will show how this could happen in theory.

At the end of the first year, the 20 (4 hatchings × 5 eggs) young sparrows, *plus* 2 parent birds, would number 22.

These 22 birds (11 pairs) would produce 220 (11 times 20) young birds. Including the 22 parent birds, the sparrow population would then be 242 by the end of the second year.

If you work out the figures for the next four years, you will find that, at the end of six years (which is less than the life-span of a sparrow) the sparrow population would reach 35,43,122!

But nature never allows such over-multiplication. She has *shikaris* as well as *shikars*, to keep a balance between different species. So the sparrow has many enemies, such as the hawk, cat, rat and owl, which take a heavy toll of it. Storms, hailstones and, in cold countries, snowfalls also kill sparrows in large numbers. On an average, only one out of eight fledgling sparrows survives.

The death of one sparrow created history, and was reported in several British newspapers. That was in 1936, when it was killed at Lord's Cricket Ground (London) by a fast ball from a Cambridge University bowler. By its unique death, that sparrow achieved a sort of immortality!



XVI

DOMESTICATION OF ANIMALS

Without domesticating wild creatures, man could not have set out on the high road to progress. For example, he could not have become an agriculturist without oxen, buffaloes or horses to pull his plough, travelled far without riding horses or animal-drawn carts, nor ventured deep into the desert without camels.

Animal domestication began with the dog, which has very rightly been called 'man's oldest friend'. The dog has proved to be the most faithful, loving and popular domestic animal, and the absolute trust which it has in its master is unmatched by any other creature.

How was the dog tamed first? Earliest man was totally carnivorous, and lived on the meat of the creatures he hunted. In those days wild dogs, wolves and jackals sneaked around the caves of Stone Age Man, to

pick up bones and any bits of skin, etc. which they could find. Occasionally cubs were caught, became tame, and were bred later, making it unnecessary to go on catching wild ones. The dog proved to be faithful, guarded men's homes, gave warning when wild beasts came near, and was most useful on hunting expeditions—which was at



that time man's only means of obtaining food.

Since those days, the dog has changed a lot from his wild ancestors, due to long domestication and controlled breeding. The wolf and the jackal, though they are from the same stock, have not been adaptable, and have remained wild to this day. The *inner* (psychological) differences between them and the dog are very wide, although some dogs (e.g. Alsatians) resemble wolves, and others (e.g. pi'-dogs) resemble jackals.

Gradually, man rose to the level of learning agriculture, and began to grow crops. Then the wild ox was domesticated to pull his plough, and later to draw carts and, of course, to provide meat. (The value of milch cows was evidently learnt much later.) In mountainous regions the sure-footed goat was kept, and in desert areas the camel.



The cat was domesticated when man had advanced further, and had learnt to store grain. The cat was most probably domesticated by woman (not man), for woman is believed to have been the first agriculturist. She tilled the land around her home, while man hunted in the forests. Cats presumably sneaked in after rats among the stored grain. Probably a few kittens or pregnant cats were caught, looked after and fed, and they multiplied in captivity. Humans found the cat useful in keeping down the number of rats, and the cat found it more convenient to stay in snug caves and be fed regularly, than to live in the wilds and hunt to stay alive. Ancient Egypt, a grain-producing country, had great respect for cats. Thousands of mummified cats have been found in old Egyptian tombs.



The wild ass was domesticated earlier than the horse, obviously because the horse was much more difficult to catch. But even after the horse was domesticated, the ass was found to be the sturdier, and could live on more sparse pastures. So it proved more useful in the Mediterranean region, and arid places like the Middle East and Rajasthan.

The horse was about the last animal to be domesticated. But, once tamed, it proved fast, dependable and affectionate. It did not, however, prove useful in the Frigid Zones, so dogs have been used to pull sleighs in the ice-bound Arctic and Antarctic region.

The fowl and the pigeon are believed to be the first two birds domesticated. Their ancestors still live in India. The red jungle fowl, found in so many Indian forests, is the ancestor of all the different breeds of chicken. After



domesticating and producing many fancy breeds from it, man has taken it almost everywhere on earth. Next to the dog, the fowl is the most widely distributed domestic creature.

The ancestor of all the different breeds of pigeon is the blue rock pigeon, found almost all over India. Even 5,000 years ago, the Egyptians kept pigeons for eating, and also probably for carrying messages. The Chinese have also kept pigeons for centuries. Emperor Akbar is said to have had a collection of over 20,000 pigeons.



XVII

WILD CREATURES AS PETS

Almost all of us are fond of keeping pets. That is perfectly natural. Love for pet animals and birds is an inheritance from our wild ancestors.

Usually we are content with common, domesticated birds and animals, like dogs, cats, rabbits, monkeys, parrots, *mynahs* and pigeons. Some prefer slightly more uncommon pets, like deer or peafowl. A few would (if they had the chance) like to keep even young wild creatures—baby leopards, tigers, bears or wolves. But, as a rule, it is wiser to stick to the common pets.

A baby elephant is not everybody's idea of a pet, which is just as well! The writer Pretorius was once landed with a wild African baby elephant. He found the greatest difficulty in discovering its correct diet. A baby elephant gets diarrhoea very easily, and then dies quickly. Elephant

milk looks thin and watery, but it certainly is not weak. It contains about double the proportion of albumen found in cow's milk. After a great deal of trial and error, Pretorius found that an average, balanced diet for a baby African elephant was 4½ litres of cow's milk, 0.28 litres of cream, the whites of two dozen eggs, and 1.80 kg. of boiled rice!

The rearing and feeding of young wild creatures is really a job for experts. There is also another problem with wild pets. As they grow bigger, they often become too rough to keep in human families, yet they are by then too domesticated to lead natural lives if they are put back in the jungle.

Take feeding. Tiger and leopard cubs fed on butcher's meat often die of worms in the intestines. For butcher's meat lacks the roughage which they normally get from the fur and hide they eat with the meat from natural kills in the jungle. I have seen droppings of tigers and leopards in the jungles, and those droppings often had in them bits of the undigested fur of the animals they had eaten. Butcher's meat also lacks the salts which these beasts of prey get from the fresh blood of their kills.

Wild creatures in captivity may also miss other minor, but necessary, food factors. You have seen your dog eating grass, particularly when it has indigestion. Gond villagers in Madhya Pradesh have told me that they have seen tigers eating certain kinds of grass. Tigers, too, may eat grass, to cure indigestion. Or they may do so to get roughage, or perhaps some vitamins which their bodies need. Many wild creatures also get health-giving minerals from salt-licks in the jungle.

In any case, all wild creatures can roam about freely, and supplement or vary their diet—as nature meant them to do. Exercise and hunting help to keep them active, alert and in good condition. A wild creature shut in a cage, or tied with a chain, is deprived of its natural birthright. No wonder it often looks unhealthy, sluggish and sad. The position of a captive wild creature is what your position would be, if you were forced by wild creatures to live among them, away from human beings, and able to eat only what *they* provided you!

I shall now give you a few instances of wild pets turning violent. An uncle of mine tried several times to bring up tiger and leopard cubs. But, when the tiger cubs got to the



age of about one year, and the leopard cubs about 9 months, he had to send them away to a zoo. Their rough-and-tumble play had, by then, become too unmanageable for human beings, particularly children.

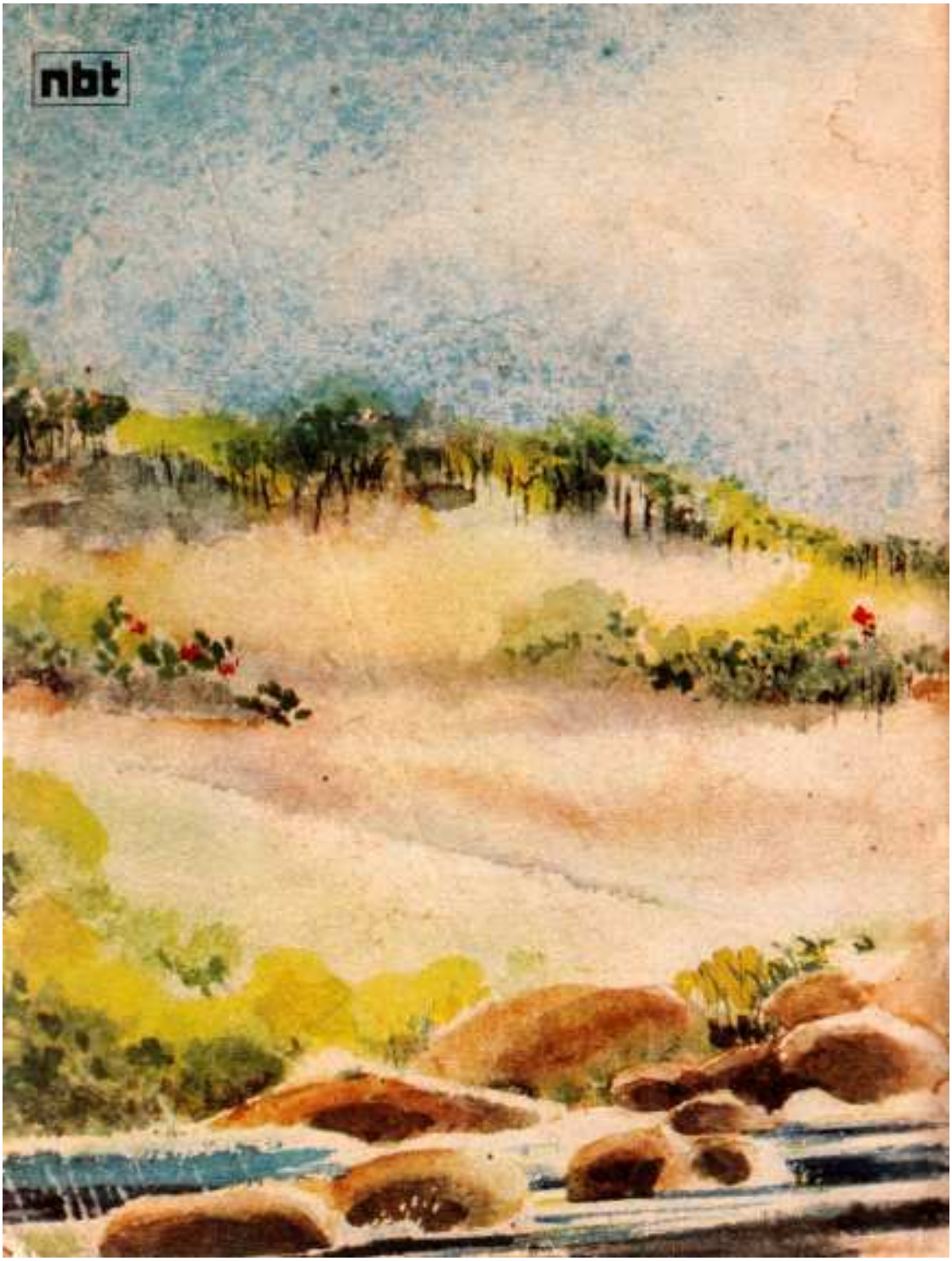
Like all jungle creatures, wild deer not only fear, but also hate man. When kept as pets, they lose this natural fear. But the natural hatred may come suddenly to the surface, and then they can turn on the first human being within attacking distance.

A cousin of mine in Assam had a *para* (hog deer) stag called Mohun. After three years of good behaviour, Mohun suddenly turned against the *mali* one day, and attacked him with horns and hooves. The *mali* was badly injured, and might have been killed, if two or three men hadn't come to his rescue.

So, normally, such creatures as have been domesticated over centuries turn out to be both happier and more reliable pets than uncommon ones do.

You must not, however, expect different creatures of the same species to behave exactly in the same way. No two dogs, cats, or even hens, are exactly alike. One may be shy, another bold; one frisky, another dignified; one greedy, another finicky. So, when you come to think of it, animals are not so very different from us, human beings!




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